

**REMARKS**

**I. Introduction**

Claims 1-8 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the admitted prior art (hereinafter “the APA”) in view of Japanese Patent No. 06-231939 to Toshiro et al. (hereinafter “Toshiro”).

Applicant respectfully requests that the Examiner reconsider and withdraw the current grounds of rejection for at least the reasons set forth herein.

**II. Claim Rejections – 35 U.S.C. § 103(a)**

As an initial matter, claim 1 is amended to further clarify that the electromagnetic device, which is mounted to an automotive transmission and used in an oil containing sulfur, comprises, *inter alia*, “means for preventing sulfur compounds present in the oil from permeating said electrically-insulating layer and attendantly reducing the formation of sulfur compounds on a surface of said conducting wire, thereby suppressing the reduction in adhesive of the electrically-insulating layer to said conducting wire, wire breakage, and short circuiting between said conducting wires,” and that “said preventing means comprising said electrically-insulating layer being of a material resistant to permeation by the sulfur compounds.” Claims 3, 5 and 7, which are the other independent claims, are amended in a similar fashion.

It is respectfully submitted that neither the APA nor Toshiro (alone or in combination) teaches these features of claims 1, 3, 5 and 7.

Toshiro is directed to reducing insulation deterioration in a mold coil for a solenoid valve, which is caused by thermal impact and PCT testing (Toshiro: paragraph 0003). According

to Toshiro, if a mold material differs from a material of the bobbin, insulation deterioration is caused by the difference between the thermal expansion coefficients of the mold material and the bobbin material, which results in cracks in the mold body (Toshiro: paragraphs 0002 and 0003). Thus, Toshiro teaches using the same material as both the mold material and the bobbin material in order to reduce the deterioration in the mold body (Toshiro: Abstract).

Toshiro does not in any way teach or suggest that sulfur compounds contained in an oil (in which a device is used) permeate an insulating layer coated on a conducting wire of the device, such that the formation of sulfur compounds on a surface of the conducting wire would result, thereby causing a reduction in the adhesive strength of the insulating layer to the conducting wire.<sup>1</sup> Toshiro makes no mention of preventing sulfur compounds from permeating an electrically-insulating layer of a conducting wire. Consequently, one of ordinary skill in the art at the time of Applicant's invention would not have been motivated to combine the APA and Toshiro in the manner proposed by the Examiner. Indeed, given the fundamental differences between Toshiro and the claimed invention, it appears that the proposed combination of the APA and Toshiro may be the product of impermissible hindsight on the part of the Examiner.

Furthermore, Toshiro does not mention any specific environment in which the molded coil will be used, *e.g.*, in an automotive environment, immersed in oil as claimed. Thus, there is no recognition in Toshiro of the need for special protective measures in such an environment, for example, the prevention of sulfur permeation.

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<sup>1</sup> Likewise, the APA does not in any way teach or suggest that a mold material and a bobbin material are to be the same material.

Although Toshiro discloses the molded coil and bobbin can be used in auto parts (Toshiro: paragraph 0001), Toshiro in no way suggests the need to prevent sulfur compounds in an oil from permeating an electrically-insulating layer coated on a conducting wire of the electromagnetic device, as recited in claim 1. Instead, Toshiro merely includes a wide-ranging statement of industrial application including, for example, business-machine components and audio components, as well as auto parts (Toshiro: paragraph 0001). A vast majority of auto parts are not immersed in oil so as to be susceptible to permeation by sulfur compounds in the oil. Indeed, nothing in Toshiro teaches or suggests that auto parts (including the mold coil) described therein are immersed in oil so as to be susceptible to permeation by sulfur compounds in the oil.

Accordingly, Toshiro does not teach or suggest that sulfur compounds contained in the oil permeate to the insulating layer coated on a conducting wire, to reach the surface of the conducting wire and act upon the conducting wire to form sulfur compounds on the conducting wire surface, thereby reducing adhesive strength of the insulating layer to the conducting wire. Consequently, Toshiro does not teach or suggest that the bobbin material and the mold material are to have low permeability to sulfur compounds.

Although Toshiro provides a list of materials from which the same mold material and bobbin material are to be selected (Toshiro: paragraph 0005), Toshiro does not in any way teach or suggest that the selected material is to have a low permeability to sulfur compounds.

In view of the above, it is respectfully submitted that claim 1 is not rendered obvious by the Examiner's proposed combination of the APA and Toshiro. Claims 3, 5 and 7 recite features similar to those found in claim 1 and, thus, claims 3, 5 and 7 are patentable over the proposed

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combination of the APA and Toshiro based on a rationale analogous to that set forth above for claim 1. Consequently, claims 2, 4, 6 and 8 are patentable over the propose combination of the APA and Toshiro, at least by virtue of their dependency.

### III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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